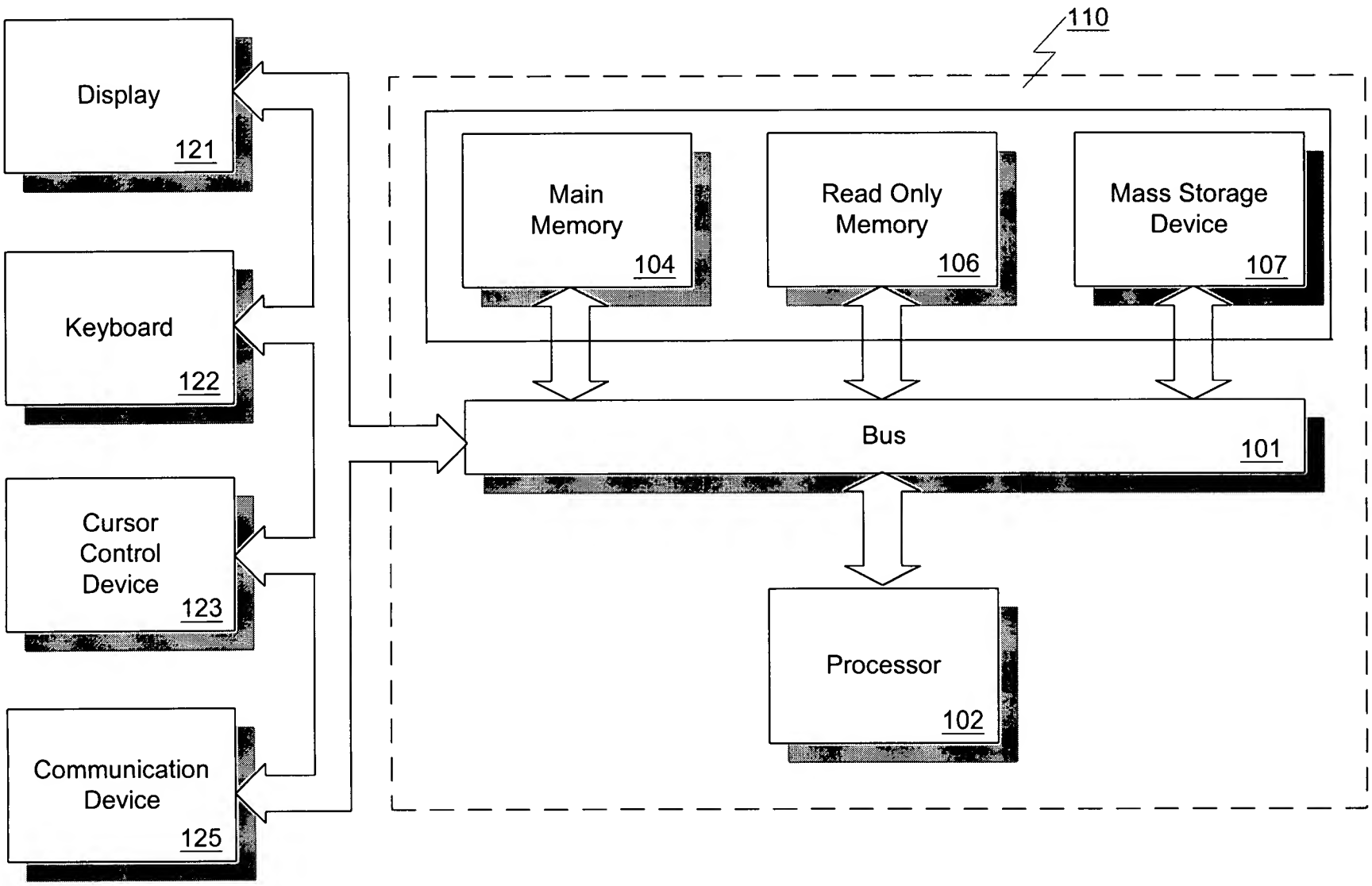
110
Display
121
Keyboard
122
Cursor
Control
Device
123
Communication
Device
125
Main
Memory
104
Read Only
Memory
106
Mass Storage
Device
107
Bus
101
Processor
102

Figure 1

100

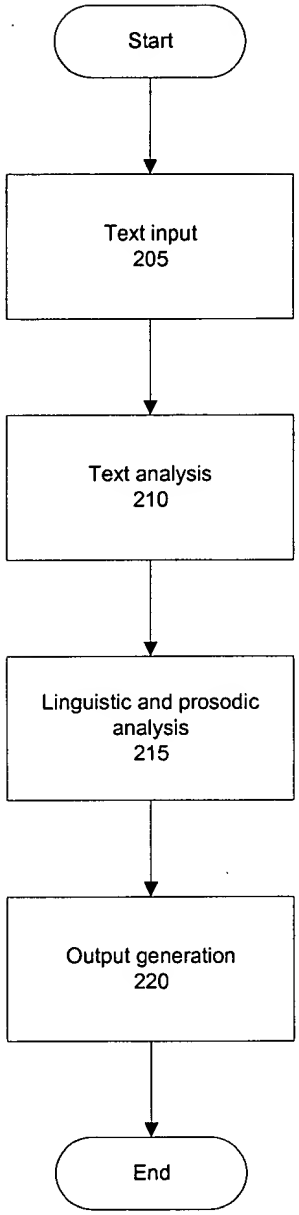
Start
Text input
205
Text analysis
210
Linguistic and prosodic
analysis
215
Output generation
220
End

Figure 2

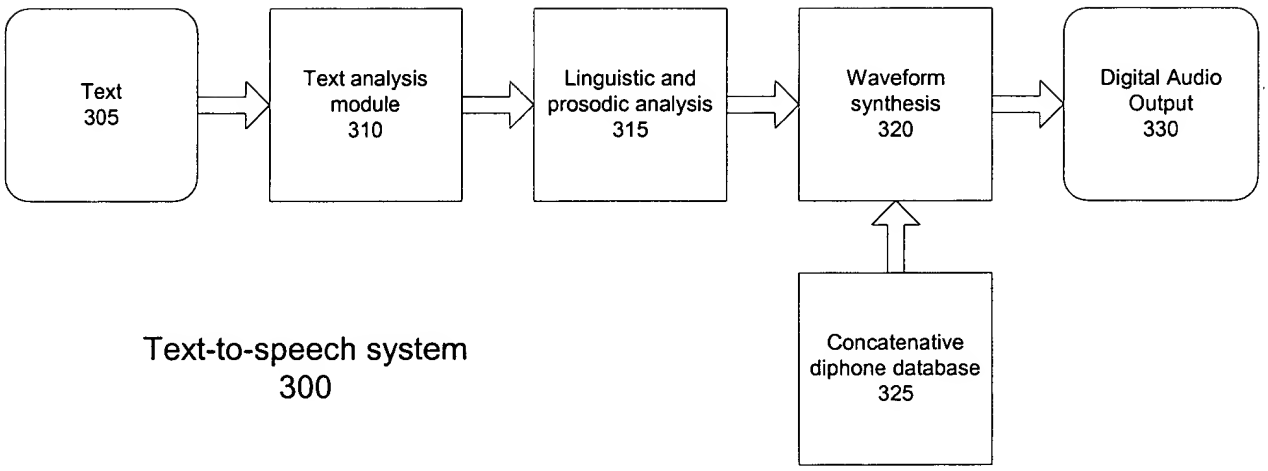
Text
305
Text analysis module
310
Linguistic and prosodic analysis
315
Waveform synthesis
320
Digital Audio Output
330
Concatenative diphone database
325
Text-to-speech system
300

Figure 3

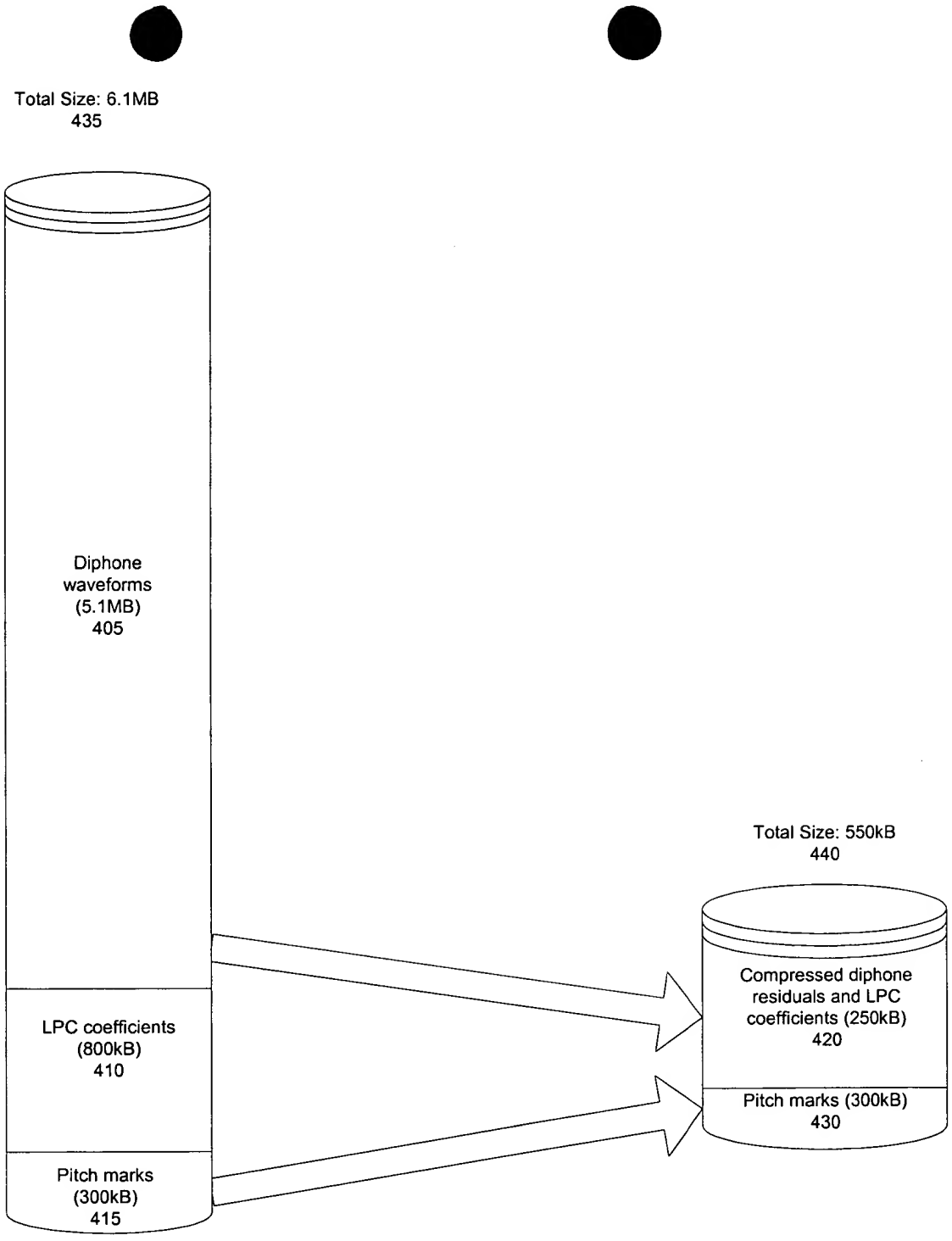
Total Size: 6.1MB
435
Diphone
waveforms
(5.1MB)
405
LPC coefficients
(800kB)
410
Pitch marks
(300kB)
415
Total Size: 550kB
440
Compressed diphone
residuals and LPC
coefficients (250kB)
420
Pitch marks (300kB)
430

Figure 4

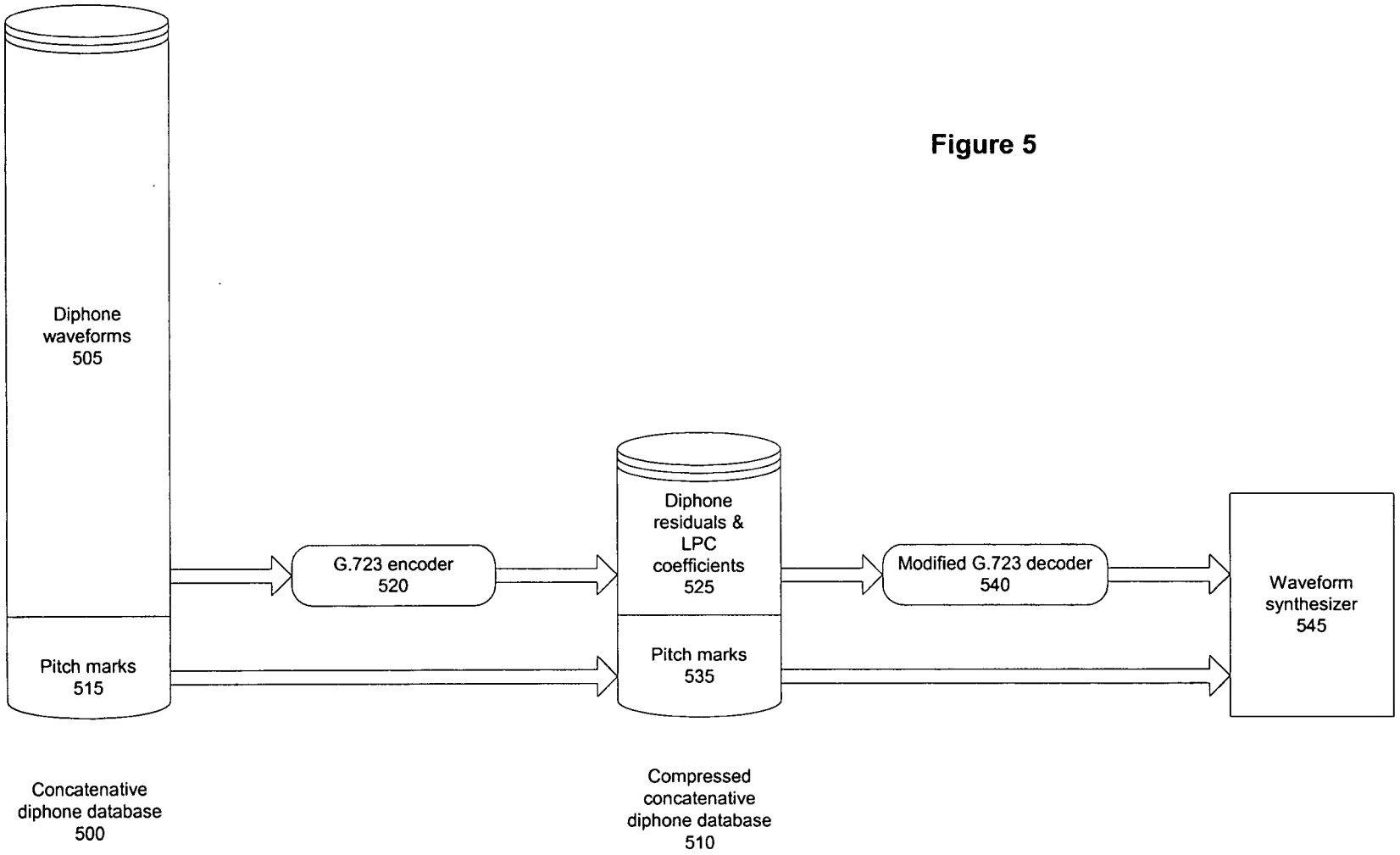

Figure 5

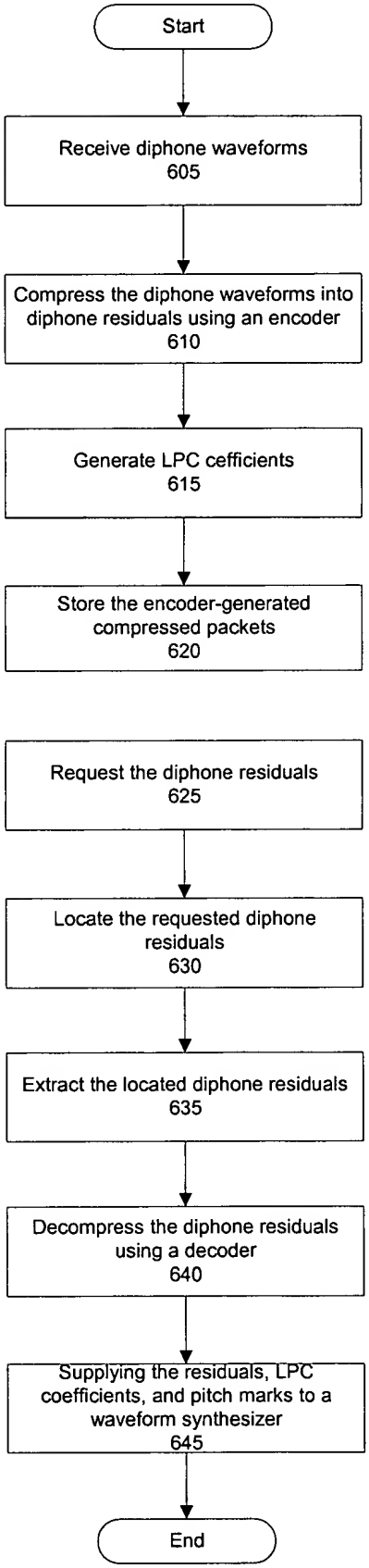
Start
Receive diphone waveforms
605
Compress the diphone waveforms into diphone residuals using an encoder
610
Generate LPC cefficients
615
Store the encoder-generated compressed packets
620
Request the diphone residuals
625
Locate the requested diphone residuals
630
Extract the located diphone residuals
635
Decompress the diphone residuals using a decoder
640
Supplying the residuals, LPC coefficients, and pitch marks to a waveform synthesizer
645
End

Figure 6

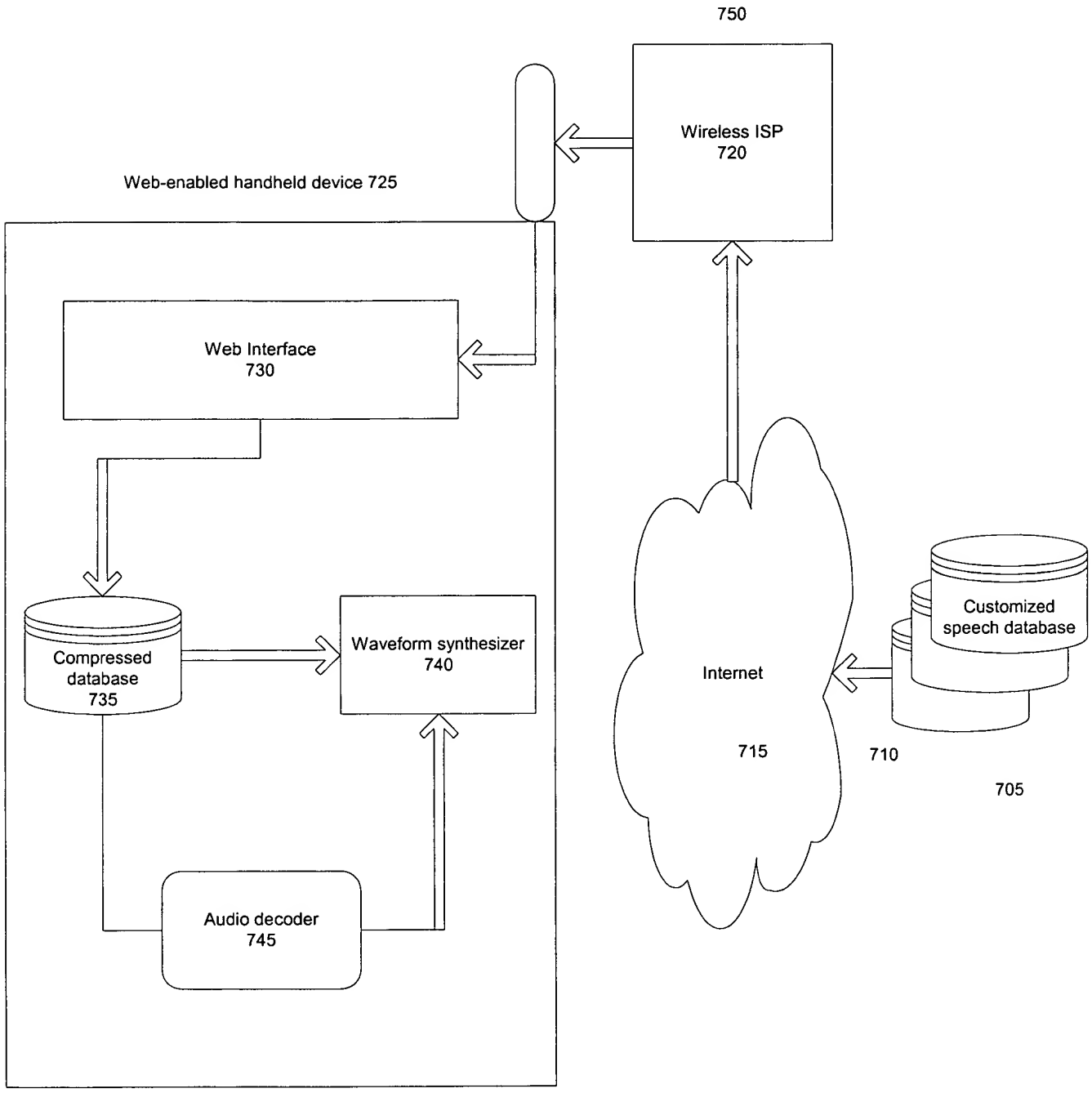
750
Wireless ISP
720
Web-enabled handheld device 725
Web Interface
730
Compressed
database
735
Waveform synthesizer
740
Audio decoder
745
Internet
715
Customized
speech database
710
705

Figure 7